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KD-Validated Anti-HSPA5 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1243

Specification

KD-Validated Anti-HSPA5 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	P11021
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 72 kDa, observed, 74 kDa KDa**
Gene Name	**HSPA5**
Aliases	**HSPA5; Heat Shock Protein Family A (Hsp70) Member 5; GRP78; Heat Shock 70kDa Protein 5 (Glucose-Regulated Protein, 78kDa); Immunoglobulin Heavy Chain-Binding Protein; Heat Shock Protein 70 Family Protein 5; Heat Shock Protein Family A Member 5; Endoplasmic Reticulum Chaperone BiP; Glucose-Regulated Protein, 78kDa; 78 KDa Glucose-Regulated Protein; Binding-Immunoglobulin Protein; HSP70 Family Protein 5; BiP; BIP; Heat Shock 70kD Protein 5 (Glucose-Regulated Protein, 78kD); Endoplasmic Reticulum Lumenal Ca(2+)-Binding; Protein Grp78; Epididymis Secretory Sperm Binding Protein Li 89n; EC 3.6.4.10; HEL-S-89n; GRP-78**
Immunogen	**A synthesized peptide derived from human GRP78 BiP**

KD-Validated Anti-HSPA5 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**3309**

Other Names
Endoplasmic reticulum chaperone BiP, 3.6.4.10, 78 kDa glucose-regulated protein, GRP-78, Binding-immunoglobulin protein {ECO:0000303|Ref.4}, BiP {ECO:0000303|Ref.4}, Heat shock protein 70 family protein 5, HSP70 family protein 5, Heat shock protein family A member 5 {ECO:0000312|HGNC:HGNC:5238}, Immunoglobulin heavy chain-binding protein {ECO:0000303|Ref.4}, HSPA5 (HGNC:5238)

KD-Validated Anti-HSPA5 Rabbit Monoclonal Antibody - Protein Information

Name HSPA5 (HGNC:5238)

Function
Endoplasmic reticulum chaperone that plays a key role in protein folding and quality control in the endoplasmic reticulum lumen (PubMed:2294010, PubMed:23769672, PubMed:23990668, PubMed:28332555). Involved in the correct folding of proteins and degradation of misfolded proteins via its interaction with DNAJC10/ERdj5, probably to facilitate the release of DNAJC10/ERdj5 from its substrate (By similarity). Acts as a key repressor of the EIF2AK3/PERK and ERN1/IRE1- mediated unfolded protein response (UPR) (PubMed:11907036, PubMed:1550958, PubMed:19538957, PubMed:36739529). In the unstressed endoplasmic reticulum, recruited by DNAJB9/ERdj4 to the luminal region of ERN1/IRE1, leading to disrupt the dimerization of ERN1/IRE1, thereby inactivating ERN1/IRE1 (By similarity). Also binds and inactivates EIF2AK3/PERK in unstressed cells (PubMed:11907036). Accumulation of misfolded protein in the endoplasmic reticulum causes release of HSPA5/BiP from ERN1/IRE1 and EIF2AK3/PERK, allowing their homodimerization and subsequent activation (PubMed:11907036). Plays an auxiliary role in post-translational transport of small presecretory proteins across endoplasmic reticulum (ER). May function as an allosteric modulator for SEC61 channel-forming translocon complex, likely cooperating with SEC62 to enable the productive insertion of these precursors into SEC61 channel. Appears to specifically regulate translocation of precursors having inhibitory residues in their mature region that weaken channel gating. May also play a role in apoptosis and cell proliferation (PubMed:26045166).

Cellular Location
Endoplasmic reticulum lumen. Melanosome. Cytoplasm {ECO:0000250|UniProtKB:P20029}. Cell surface Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:12643545). Localizes to the cell surface of epithelial cells in response to high levels of free iron (PubMed:20484814, PubMed:24355926, PubMed:27159390)

KD-Validated Anti-HSPA5 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-HSPA5 Rabbit Monoclonal Antibody - Images

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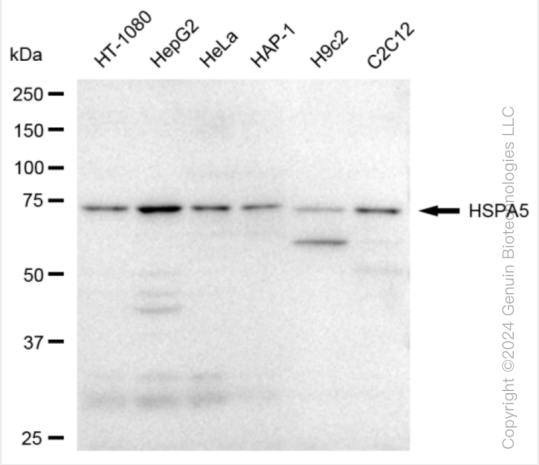
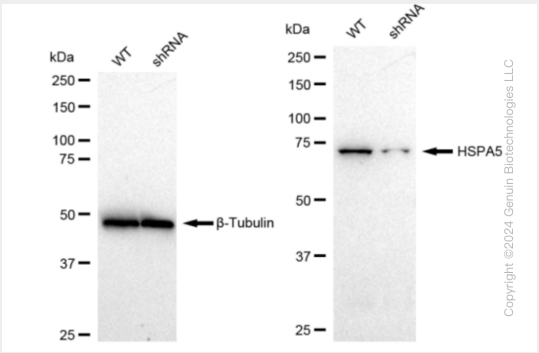
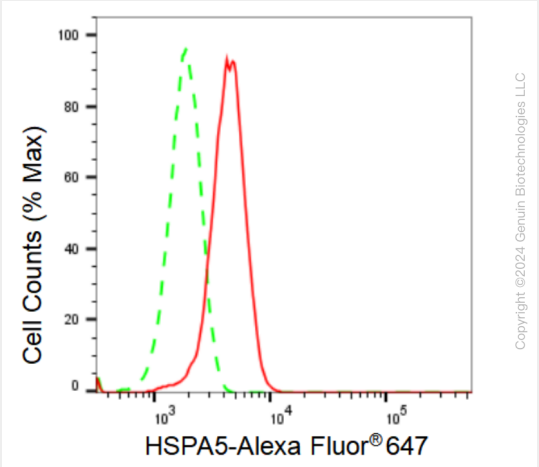


Western blotting analysis using anti-HSPA5 antibody (Cat#AGI1243). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-HSPA5 antibody (Cat#AGI1243, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-HSPA5 antibody (Cat#AGI1243). HSPA5 expression in wild type (WT) and HSPA5 shRNA knockdown (KD) 293T cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-HSPA5 antibody (Cat#AGI1243, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of HSPA5 expression in HepG2 cells using HSPA5 antibody (Cat#AGI1243, 1:2,000). Green, isotype control; red, HSPA5.

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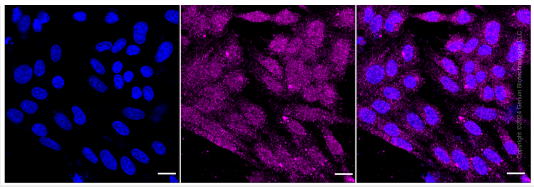

Immunocytochemical staining of HepG2 cells with anti-HSPA5 antibody (Cat#AGI1243, 1:1,000). Nuclei were stained blue with DAPI; HSPA5 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.